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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/820,774

04/09/2004

Isao Matsuda

Q80987

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23373

7590

08/24/2006

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EXAMINER

WHITE, EVERETT NMN

ART UNIT

PAPER NUMBER

1623

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,774

Applicant(s)

MATSUDA ET AL.

Examiner

Everett White

Art Unit

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5-13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/27/04 & 4/9/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 5-13 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Carrington et al (US Patent No. 4,247,568).

Applicants claim a method for the preparation of a glucose polymer having an ion-exchanging ability comprising the steps of drying a mixed aqueous solution containing a raw glucose polymer and a polyvalent carboxylic acid to thus form a uniform powdery mixture and then subjecting the powdery mixture to heat treatment. Additional limitation in the dependent claim include the method wherein the polyvalent carboxylic acid is at least one member selected from the group consisting of citric acid, succinic acid, maleic acid, fumaric acid and tartaric acid.

The Carrington et al patent discloses a process in Example 6 that involved raw maize starch being dispersed in water with efficient agitation. To this dispersion was added citric acid (a polyvalent carboxylic acid) and agitation was continued to ensure thorough dissolution and distribution of the citric acid. The Carrington et al patent discloses that this slurry was then dried to 1% water content in a hot air circulation oven at 70° for 6 hours. Carrington et al discloses

Art Unit: 1623

that the dried product was then milled to particle size of less than 250 microns diameter and heated to 180° for 3 hours. This description of the process in Example 6 of the Carrington et al patent anticipate the steps of the method disclosed in instant Claim 1 and the citric acid used in this process anticipate the citric acid disclosed in instant Claim 4.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1623

5. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carrington et al (US Patent No. 4,247,568).

Applicants claim a method for the preparation of a glucose polymer having an ion-exchanging ability comprising the steps of drying a mixed aqueous solution containing a raw glucose polymer and a polyvalent carboxylic acid to thus form a uniform powdery mixture and then subjecting the powdery mixture to a heat treatment. Additional limitations in the dependent claims include the method wherein the raw glucose polymer is at least one member selected from the group consisting of oxidized starch, starch hydrolyzates, hydrogenated starch hydrolyzates and digestion-resistant starch hydrolyzates and the average degree of polymerization thereof ranges from 4 to 123.

The Carrington et al patent discloses a process in Example 6 that involved raw maize starch being dispersed in water with efficient agitation. To this dispersion was added citric acid (a polyvalent carboxylic acid) and agitation was continued to ensure thorough dissolution and distribution of the citric acid. The Carrington et al patent discloses that this slurry was then dried to 1% water content in a hot air circulation oven at 70° for 6 hours. Carrington et al discloses that the dried product was then milled to particle size of less than 250 microns diameter and heated to 180° for 3 hours. This description of the process in Example 6 of the Carrington et al patent embraces the steps of the method disclosed in the instant claims. See column 4, 3rd paragraph wherein the Carrington et al patent shows that the starches used in the process thereof may be starch hydrolysate which are similar to the starch hydrolyzates disclosed in instant Claims 2 and 3.

The instantly claimed method for the preparation of glucose polymer differ from the process disclosed in Carrington et al patent by claiming the raw glucose polymer thereof as having a degree of polymerization ranging from 4 to 123.

However, Example 7 of the Carrington et al patent discloses a process wherein the starch product was found to have a dextrose equivalent of 19.4, which suggests a starch product having a degree of polymerization within the

Art Unit: 1623

ranges disclosed in instant Claims 2 and 3. Further more, the degree of polymerization ranges disclosed in instant Claims 2 and 3 for raw glucose polymers are well known in the art.

One having ordinary skill in the art would have been motivated to employ the process of the prior art with the expectation of obtaining the desired product because the skilled artisan would have expected the analogous starting materials to react similarly.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of Applicants invention having the Carrington et al patent before him to carry out the instantly claimed method for the preparation of a glucose polymer having an ion exchanging ability in view of their closely related structures of the starting material used to carry out the processes and the resulting expectation of similar dietetic properties for low calorie food.

Information Disclosure Statement

6. The information disclosure statement filed April 9, 2004 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Summary

7. Claims 1-4 are rejected; Claims 5-13 are objected to.

Examiner's Telephone Number, Fax Number, and Other Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is 571-272-0660. The examiner can normally be reached on 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The

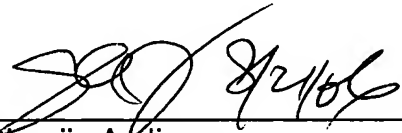
Art Unit: 1623

fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



E. White



Shaojia A. Jiang
Supervisory Primary Examiner
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